

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Harris A. Pitlick on March 13, 2009.

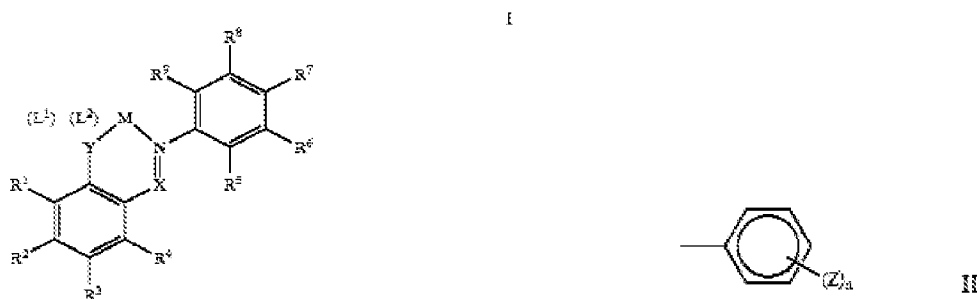
Cancel claim 11

Cancel claim 12

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 1-10 and 21 are allowed over the closest references, Schmid *et al.* (U.S. 6,800,699) and Kristen *et al.* (WO 01/44325).

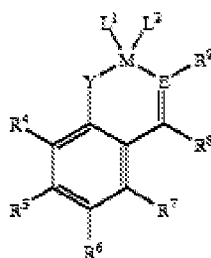
The present invention is drawn to a process for preparing an aqueous polymer dispersion by polymerizing as components, one or more olefins in an aqueous medium in the presence of one or more dispersants, and optionally, of organic solvents, said components forming a miniemulsion having an average droplet diameter ≤ 1000 nm, said process comprising catalyzing, in the miniemulsion, the polymerization of said one or more olefins in the presence of one or more metal complexes of formula I, shown below left.



Salient features of complex of formula I include: M is a transition metal from groups 7 to 10 of the periodic table of elements, X is CR or nitrogen, Y is OH, oxygen, sulfur, N-R¹⁰ or P-R¹⁰, at least one of radicals R¹ to R⁹ is in the form of a radical of formula II, shown above right, wherein Z is an electron withdrawing group, and *n* is an integer from 1 to 5.

Schmid *et al.* (U.S. 6,800,699) teaches a process for production of aqueous polymer dispersions in the presence of a transition metal complex, dispersing agents, and optionally organic solvent, and wherein the olefinically unsaturated monomer is present in an aqueous medium as a dispersed phase having an average droplet size diameter ≤ 1000 nm, *i.e.*, a miniemulsion. The catalyst system comprises a transition metal complex having the general formula shown below.

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Substituents R^4 to R^9 represent a variety of embodiments: hydrogen, (un)substituted C_1 - C_{12} alkyl, C_7 - C_{13} aralkyl, (un)substituted C_3 - C_{12} cycloalkyl, (un)substituted C_6 - C_{14} aryl, alkoxy, silyloxy, halogen, NO_2 , and amino. Aryl groups are disclosed as being optionally substituted with one or more C_1 - C_{12} alkyl groups, halogens, halogenated C_1 - C_{12} alkyl groups, C_1 - C_{12} alkoxy groups, silyloxy groups, amino groups, or thioether groups. It is the examiner's position that Schmid *et al.* does not teach with sufficient specificity a series of complexes that satisfy the structural requisites described in the claims of the instant invention, namely complexes which contain at least one phenyl group substituted with at least one electron withdrawing group. Therefore, it is concluded that Schmid *et al.* does not make teach or render obvious the process of the instant claims.

Kristen *et al.* (WO 01/44325) discloses methods of emulsion polymerization of olefins with a group 7-10 metal complex having general structure (Ib), wherein radicals R^4 to R^9 contain an electron withdrawing group X, such as $-SO_3^-$. Kristen *et al.* does not teach with sufficient specificity or render obvious a series of complexes that satisfy the structural requisites described in the claims of the instant invention, namely complexes which contain at least one phenyl group substituted with at least one electron withdrawing group. Moreover, the reference does not teach a process comprising forming a miniemulsion having an average droplet diameter ≤ 1000 nm. Taken together, Kristen *et al.* does not teach or fairly suggest the process of the instant claims.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
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March 13, 2009

/David Wu/
Supervisory Patent Examiner, Art Unit 1796